## 10/535728

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau

reau JIPO



(43) International Publication Date 10 June 2004 (10.06.2004)

**PCT** 

(10) International Publication Number WO 2004/048569 A1

(51) International Patent Classification<sup>7</sup>: B01D 15/08, C07H 1/06, 1/08

C12N 15/10,

- (74) Agents: KILANDER, Annika et al.; Amersham Bio-
- (21) International Application Number:

PCT/SE2003/001784

(22) International Filing Date:

17 November 2003 (17.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0203521-0

28 November 2002 (28.11.2002) SE

- (71) Applicant (for all designated States except US): AMER-SHAM BIOSCIENCES AB [SF/SE]; Patents Department, Björkgatan 30, S-751 84 Uppsala (SE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): ERIKSSON, Kjell [SE/SE]; Amersham Biosciences AB, Björkgatan 30, S-751 84 Uppsala (SE). JOHANSSON, Bo-Lennart [SE/SE]; Amersham Biosciences AB, Björkgatan 30, S-751 84 Uppsala (SE).

- sciences AB, Björkgatan 30, S-751 84 Uppsala (SE).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PII, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ISOLATION OF ANTISENSE OLIGONUCLEOTIDES

(57) Abstract: The present invention relates to a method of isolating fully thioated single stranded antisense oligonucleotides from a biological solution, which method comprises the steps of contacting the biological solution with an immobilised metal ion adsorption chromatography (IMAC) resin to adsorb the antisense oligonucleotides to said resin and subsequently contacting the resin with an eluent under conditions that provide desorption of the antisense oligonucleotides from said resin, wherein the fully thioated antisense oligonucleotides are separated from incorrectly thioated antisense oligonucleotides in said solution. The invention also relates to the use of an immobilised metal ion adsorption chromatography (IMAC) resin for isolation of fully thioated single stranded antisense oligonucleotides from a biological solution.

